

OWNERS MANUAL



SRCTM 421
16/24

SOUND REINFORCEMENT CONSOLE



WARNING: TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE
THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE,
READ THE OPERATING GUIDE FOR FURTHER WARNINGS.



SRC 421-16

Mixing Console



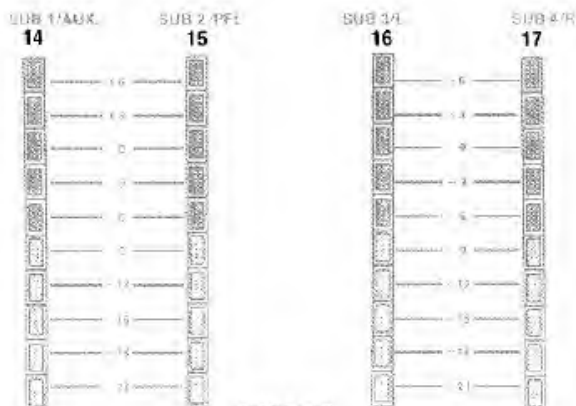
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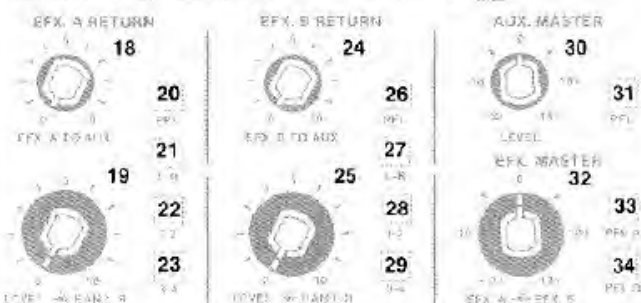
A.M.T. 8 16



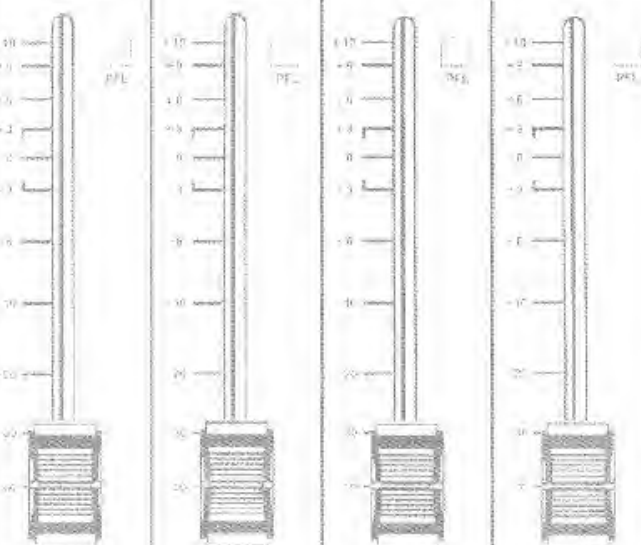
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SUB 1/SUB 2 SUB 3/SUB 4 AUX, PFL L/R



SUB 1 SUB 2 SUB 3 SUB 4



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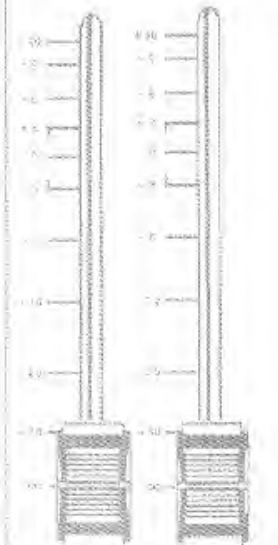


48



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L R



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CHANNEL SECTION.

There will be either 16 channels on Model SRC™ 421-16, or 24 channels on Model SRC™ 421-24.

GAIN (1)

Varies the gain of the channel input stage to allow a wide input dynamic range. Proper adjustment of the input gain is aided by observance of the LIMIT LED.

HIGH (2)

An active tone control (shelving type, ± 15 dB) that varies the high frequency boost or cut.

MID/FREQUENCY (3)

The (inner) "MID" is an active control capable of 15 dB of boost or cut at the center frequency selected by the (outer) "FREQUENCY" control. Frequency range is variable from 200 Hz to 5 kHz.

LOW (4)

An active tone control (shelving type, ± 15 dB) that varies the low frequency boost or cut.

OPERATION NOTE

Excessive EQ boost, especially of the low frequencies, increases the possibility of speaker damage, and sacrifices valuable headroom.

AUX. CONTROL and PRE/POST BUTTON (5)

The AUX. control regulates the amount of signal routed to the AUX. Master control. The PRE/POST button will choose whether the AUX. signal is taken from the PRE-EQ (button up), or the POST-EQ (button down).

EFX. SEND A/B (6)

Two effects sends are provided in a dual-concentric control. The inner knob is EFX. A; the outer is EFX. B. Both sends are Post (after) EQ, and Post Fader. The 'A' send supplies the EFX. A master control; the 'B' send supplies the EFX. B master control.

PFL (7)

Allows cueing of any channel or combination of channels instantly through headphones connected to the headphone jack (master section). All channel functions (except fader) may be monitored via the channel PFL system.

LIMIT LED (8)

Indicates when the signal level in the channel is too high. It illuminates when the channel signal reaches approximately +15 dBV.

OPERATION NOTE

Illumination indicates clipping (distortion) in the channel. Proper channel adjustment will allow operation without lighting the LED. Adjust the Gain, EQ and Level so that the LED does not flash during operation. The sampling for status indication is taken at three critical points: after the input amp and Out/In insertion point, equalization, and final channel gain stage.

CHANNEL LEVEL FADER (9)

Determines the level of the channel. Calibration is in dB and level is variable from -infinity (off) to +10 dB. This should be operated near the "0 dB" (unity gain) indicator whenever possible to assure an optimum balance between channel noise and headroom.

OPERATION NOTE

It may be necessary to operate the Channel Level Fader at other than the optimum setting. Example: If the channel need not be as loud as the other channels, the Fader may be set lower than 0 dB. This yields lower noise and a visual indication of the channel's relative level. Should more level be needed, it can be achieved with the Fader, preventing readjustment of the critical input gain, which would also affect the AUX. Send.

PAN (10)

For stereo operation PAN is used to mix the channel output to left, right, or in between in the 'stereo image'. For mono or submastering operation, the PAN control is used with the assignment switches to pan the channel output between Submasters 1 or 2 when the 1-2 button is pressed, Submasters 3 or 4 when the 3-4 button is pressed, and direct to L or R when the L-R button is pressed.

ASSIGNMENT SWITCH L-R (11)

When depressed, this button allows the channel to send its output through the PAN control, which will now 'crossfade' between Output Masters Left and Right. With this function engaged, Pan control L position directs output to the Left Output Master, center position will output to both Masters equally, and in the R position the output will be sent to the Right Output Master.

ASSIGNMENT SWITCH 1-2 (12)

When depressed, this button allows the channel to send its output through the PAN control, which will now 'crossfade' between Submasters 1 and 2. With this function engaged, Pan control L position directs output to Submaster 1, center position will output to both submasters equally, and in the R position the output will be sent to Submaster 2.

ASSIGNMENT SWITCH 3-4 (13)

When depressed, this button allows the channel to send its output through the PAN control, which will now 'crossfade' between Submasters 3 and 4. With this function engaged, Pan control L position directs output to Submaster 3, center position will output to both Submasters equally, and in the R position the output will be sent to Submaster 4.

OPERATION NOTE:

This assignment system provides 4 Mono Submasters which can be assigned to L and R by the Sub Pan control. For 2 Stereo Submasters, group Subs 1, 2 and Subs 3, 4 together, and pan Sub Pan 1 and 3 to L, and Sub Pan 2 and 4 to R. The Channel can then be assigned to the 1-2 stereo Submaster by pressing the 1-2 button, to the 3-4 stereo Submaster by pressing the 3-4 button, or direct to L and R by pressing the L-R button. The channel Pan control is then used to place the channel in the desired position within the 'stereo' image.

MASTER SECTION

SUB 1/AUX ARRAY (14)

A calibrated, switch-selectable LED array is provided to visually indicate the output level of Sub 1 or Aux. Switch Out position selects Sub 1; Switch In position selects Aux.

SUB 2/PFL ARRAY (15)

A calibrated, switch-selectable LED array is provided to visually indicate the output level of Sub 2 or PFL. Switch Out position selects Sub 2; Switch In position selects PFL.

SUB 3/LEFT ARRAY (16)

A calibrated, switch-selectable LED array is provided to visually indicate the output level of Sub 3 or Left Main. Switch Out position selects Sub 3; Switch In position selects Left Main.

SUB 4/RIGHT MAIN ARRAY (17)

A calibrated, switch-selectable LED array is provided to visually indicate the output level of Sub 4 or Right. Switch Out position selects Sub 4; Switch In position selects Right Main.

EFFECTS "A" RETURN SECTION

NOTE : This has an internally patched Reverb which is automatically removed from the signal path when a plug is inserted into the EFX. A return jack.

EFX. A TO AUX. (18)

Allows the "A" Effect to be assigned to the Aux Mix.

LEVEL/PAN L/R (19)

Dual concentric control : The outer knob is a stereo Pan control for Effects "A" return assignment to L & R, or Subs 1, 2, 3, and 4. Must be used in conjunction with assignment switches 21 thru 23. The inner knob controls the level of the Effects "A" Return. When an outboard effects device is patched into the Effects "A" patch loop, this control determines the level of the effect that is routed thru the Effects "A" Pan control.

PFL (20)

The "In" position of this switch assigns the Effects "A" Return to PFL. (See 19.)

L - R ASSIGN (21)

The "In" position of this switch routes the Effects "A" Return thru Effects "A" Pan control directly to left, right or both. The "Out" position removes Effect "A" from L and R.

1 - 2 (22)

The "In" position of this switch routes the Effects "A" Return thru Effects "A" Pan control to Sub 1, Sub 2, or both. The "Out" position removes Effect "A" from Subs 1 and 2.

3 - 4 (23)

The "In" position of this switch routes the Effects "A" Return thru Effects "A" Pan control to Sub 3, Sub 4, or both. The "Out" position removes Effect "A" from Subs 3 and 4.

EFFECTS "B" RETURN SECTION

EFX. B TO AUX. (24)

Allows the "B" Effect to be assigned to the Aux Mix.

LEVEL/PAN L/R (25)

Dual concentric control : The outer knob is a stereo Pan control for Effects "B" return assignment to L & R, or Subs 1, 2, 3, and 4. Must be used in conjunction with assignment switches 27 thru 29. The inner knob controls the level of the Effects "B" Return. When an outboard effects device is patched into the Effects "B" patch loop, this control determines the level of the effect that is routed thru the Effects "B" Pan control.

PFL (26)

The "In" position of this switch assigns the Effects "B" Return to PFL. (See 25)

L - R ASSIGN (27)

The "In" position of this switch routes the Effects "B" Return thru Effects "B" Pan control directly to left, right or both. The "Out" position removes Effect "B" from L and R.

1 - 2 (28)

The "In" position of this switch routes the Effects "B" Return thru Effects "B" Pan control to Sub 1, Sub 2, or both. The "Out" position removes Effect "B" from Subs 1 and 2.

3 - 4 (29)

The "In" position of this switch routes the Effects "B" Return thru Effects "B" Pan control to Sub 3, Sub 4, or both. The "Out" position removes Effect "B" from Subs 3 and 4.

AUX. MASTER SUBSECTION

AUX. MASTER LEVEL (30)

Controls the overall Aux. Mix level appearing at the Aux. output jack.

AUX PFL (31)

The "In" position of this switch assigns the Aux. output to the PFL.

EFX. MASTER SUBSECTION

EFX. MASTER (32)

These are the master level controls for the final stages of effects drive. They are dual concentric controls - inner is the EFX. A master level control, outer is the EFX. B master level control. The signal may be routed to PFL by pressing in button 33 for EFX. 'A', and button 34 for EFX. 'B'; EFX. A Master drives the internal reverb system.

PFL A (33)

The "In" position of this switch assigns Effects "A" output to the PFL.

PFL B (34)

The "In" position of this switch assigns Effects "B" output to the PFL.

SUBMASTER SECTION

SUB 1 (35)

This Fader sets the level of Submaster 1.

PAN (36)

For stereo operation, PAN is used to 'crossfade' the Submaster to the center, left or right in the L-R 'stereo image'. For mono operation, PAN assigns the Submaster output to the 'L' or 'R' Masters.

SUB 2 (37)

This Fader sets the level of Submaster 2.

PAN (38)

For stereo operation, PAN is used to 'crossfade' the Submaster to the center, left or right in the L-R 'stereo image'. For mono operation, PAN assigns the Submaster output to the 'L' or 'R' Masters.

SUB 3 (39)

This Fader sets the level of Submaster 3.

PAN (40)

For stereo operation, PAN is used to 'crossfade' the Submaster to the center, left or right in the L-R 'stereo image'. For mono operation, PAN assigns the Submaster output to the 'L' or 'R' Masters.

SUB 4 (41)

This Fader sets the level of Submaster 4.

PAN (42)

For stereo operation, PAN is used to 'crossfade' the Submaster to the center, left or right in the L-R 'stereo image'. For mono operation, PAN assigns the Submaster output to the 'L' or 'R' Masters.

MISCELLANEOUS FUNCTIONS

POWER SWITCH (43)

Depress the switch to the "On" position. The red pilot light (LED) will illuminate indicating power is being supplied to the unit.

LAMP (44)

A 2-pin XLR jack is provided for connecting an optional gooseneck mixer lamp (Model ML-2) for illumination in adverse lighting conditions.

STEREO OUT (45)

Adjusts the Left and Right signal level to the STEREO OUT jack. Signals are taken before (Pre) the LEFT and RIGHT Main Controls.

MASTER (46)

Controls the overall mix level when the mixer is operated in the mono configuration (4x2x1). MASTER is the combination of the Main LEFT and RIGHT signals and the MASTER AUX. In.

PFL LEVEL AND PFL LED (47)

Controls the level for any "pre fade listen" (PFL) source, selected on the mixer, and sends this signal to the headphones. One or more PFL switches must be engaged before this control is active. PFL LED indicates when the PFL is active. NOTE: When the PFL is active, it overrides Stereo L/R in the headphones.

HEADPHONE LEVEL (48)

Adjusts the level of L/R signals at the HEADPHONE jack, unless the PFL signal is present.

HEADPHONE JACK (49)

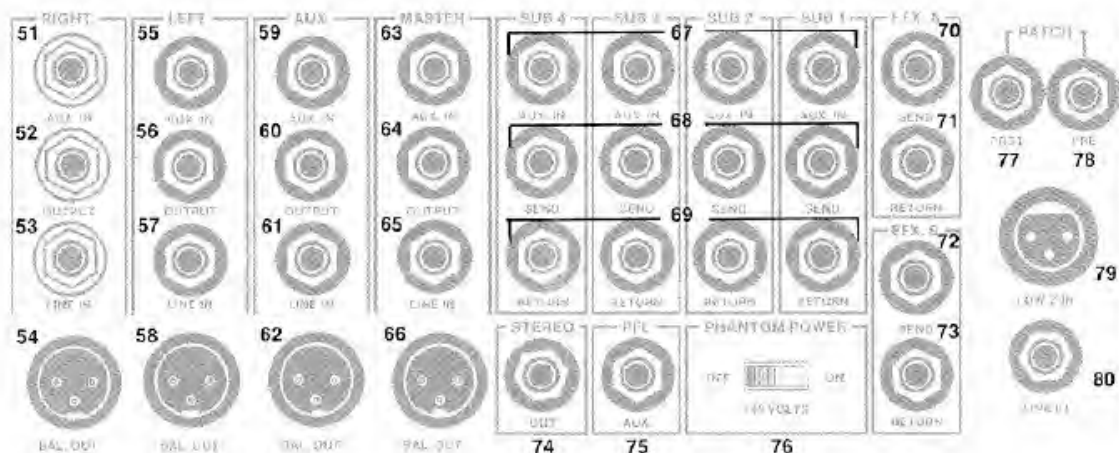
This stereo jack allows signal to flow to both sides of any stereo headset. Tip = Left, Ring = Right.

LEFT/RIGHT (50)

These are the Master Faders for all channels and Submasters and determine the overall main or "house" mix levels.

MASTER PATCH

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RIGHT SECTION

RIGHT AUX. IN (51)

An input to the RIGHT MASTER for patching in signals from external devices such as effects processors, or adding channels from a second mixer.

RIGHT OUTPUT (52)

An output from the RIGHT MASTER for patching signals out to external devices such as effects processors, graphic equalizers, power amplifiers, etc.

RIGHT LINE IN (53)

A line level input to the Right Line Amplifier for patching in signals before the balanced output. This input jack is switching and may be used for "In Line" loop capability in conjunction with the right line output. An external signal patched in at this point may utilize the right line driver stage and the XLR balanced output. NOTE: The insertion of a 1/4" phone plug at this point removes the balanced output capability from the right main, via the switching jack.

RIGHT BALANCED OUT (54)

A balanced line output containing the RIGHT OUTPUT signal. The signal level at this output is controlled by the right master slider, unless the "Right Line Input" switching jack has been activated. This balanced output may be used to balance other signals which may be patched in at the RIGHT LINE INPUT. (See Right Line In, 53.)

LEFT SECTION

LEFT AUX. IN (55)

An input to the LEFT MASTER for patching in signals from external devices such as effects processors, or adding channels from a second mixer.

LEFT OUTPUT (56)

An output from the LEFT MASTER for patching signals out to external devices such as effects processors, graphic equalizers, power amplifiers, etc.

LEFT LINE IN (57)

A line level input to the Left Line Amplifier for patching in signals before the balanced output. This input jack is switching and may be used for "In Line" loop capability in conjunction with the left line output. An external signal patched in at this point may utilize the left line driver stage and the XLR balanced output. NOTE: The insertion of a 1/4" phone plug at this point removes the balanced output capability from the left main, via the switching jack.

LEFT BALANCED OUT (58)

A balanced line output containing the LEFT OUTPUT signal. The signal level at this output is controlled by the left master slider, unless the "Left Line Input" switching jack has been activated. This balanced output may be used to balance other signals which may be patched in at the LEFT LINE INPUT. (See Left Line In, 57.)

AUX. SECTION

AUX. AUX. IN (59)

An input for patching external signals into the AUX. mixing bus. When connecting more than one mixer for additional channels, the AUX. or Monitor output from the second mixer should normally patch in at this point.

AUX. OUTPUT (60)

An output from the AUX. mixing bus for patching signals out to external devices such as power amplifiers, graphic equalizers, etc. The AUX. Output is normally used for a separate monitor mix. When the channel's AUX. sends are operated in 'Pre' position, the AUX. Output is not affected by channel EQ. The "POST" position allows channel EQ to become operational on AUX. output. (See AUX. Control and Pre/Post, 5.)

AUX. LINE IN (61)

A line level input to the AUX. Line Amplifier for patching in signals before the balanced output. This input jack is switching and may be used for "In Line" loop capability in conjunction with the AUX. line output. Any external signal patched in at this point may utilize the AUX. line driver stage and the XLR balanced output. NOTE: The insertion of a 1/4" phone plug at this point removes the balanced output capability from the AUX. bus, via the switching jack.

AUX. BAL. OUT (62)

A balanced line output containing the AUX. output signal. The signal level at this output is controlled by the AUX. master level, unless the "AUX. Line Input" switching jack has been activated. This balanced output may be used to balance other signals which may be patched in at the AUX. Line Input. (See AUX. Line In, 61)

MASTER SECTION

MASTER AUX. IN (63)

An input to the Master for patching in signals from external devices such as effects processors, or adding channels from a second mixer.

MASTER OUTPUT (64)

This output is a "Mono" combination of the left and right program material. The signal level at this output is determined by the master level control. May be used to drive external devices such as power amps, graphic equalizers, effects processors, etc.

MASTER LINE IN (65)

A line level input to the Master line amplifier for patching in signals before the balanced output. This input jack is switching and may be used for "In Line" loop capability in conjunction with the master line output. Any external signal patched in at this point may utilize the master line driver stage and the XLR balanced output. NOTE: The insertion of a 1/4" phone plug at this point removes the balanced output capability from the master, via the switching jack.

MASTER BAL. OUT (66)

A balanced line output containing the Master "mono" output signal. The signal level at this output is determined by the master level control, unless the "MASTER Line Input" switching jack has been activated. This balanced output may be used to balance other signals which may be patched in at the Master Line Input. (See MASTER Line In, 65)

SUBMASTER SECTION

SUBMASTER AUX. INPUTS (67)

These inputs may be used to patch an external signal into any of the four submix buses. Aux. inputs are normally used for connecting a second mixer for additional channels.

SUBMASTER SEND 6 (68)

These sends provide outputs from all four Submasters to drive external devices such as effects processors, tape recorder inputs, graphic equalizers, etc. The signal level at the "Sub Sends" is determined by the Submaster sliders, 1 thru 4. Submaster sends are normally used as the output for an independent effects loop on a particular sub group, or to supply an unbalanced output to tape deck inputs. (See SUB Returns, 69.)

SUB. 4, 3, 2 and 1 RETURN (69)

The sub returns are switching inputs and route signals patched in at this point directly to the Submaster PAN controls. The sub returns are normally used to complete the effects patch loop for signal processing of individual Submasters. (See SUB SENDS, 68.) NOTE: The sub return patch point is "after" the Submaster slider and "before" the Submaster pan control.

EFX. A SECTION

EFX. A SEND (70)

The output from the combination of EFX. A channel SENDS and the EFX. A MASTER Control. This effects send is normally used to drive external effects processors controlled by the EFX. A Bus, and is the output portion of the "A" effects loop. (See EFX. A Return, 71.)

EFX. A RETURN (71)

A signal patched into the EFX. A Return input is routed directly to the EFX. A level control, completing the "A" effects loop. (See EFX. A Send 70) the EFX. Return jack is normally used for the output from external effects devices controlled by the EFX. A bus. NOTE: The EFX. jack is switching and when a 1/4" phone plug is patched in at this point, the internal reverb system is disabled.

EFX. B SECTION

EFX. B SEND (72)

The output from the combination of EFX. B channel SEND and the EFX. B MASTER Control. This effects send is normally used to drive external effects processors controlled by the EFX. Bus, and is the output portion of the "B" effects loop. (See EFX. B Return, 73.) When external effects devices are not employed, the EFX. B Send may be used as a separate recording mix, or to drive additional power amp/speaker combinations.

EFX. B RETURN (73)

A signal patched into the EFX. B Return input is routed directly to the EFX. B level control, completing the "B" effects loop. (See EFX. B Send, 72.) The EFX. Return jack is normally used for the output from external effects devices controlled by the EFX. B bus.

STEREO SECTION

STEREO OUT (74)

A stereo (L and R) output is provided for driving external devices such as stereo tape recorders, stereo equalizers, stereo power amplifiers, etc. The signal level at the stereo out jack is determined by the stereo out level control. NOTE: Stereo 1/4" plugs used to access the STEREO OUT signal should be wired Tip = left and Ring = right.

PFL SECTION

PFL AUX. (75)

A stereo jack for patching two PFL buses together from mixer to mixer. Tip = PFL Audio Signal, Ring = PFL Switching Control Signal, and grounding the sleeve activates the PFL System.

PHANTOM POWER SECTION

PHANTOM POWER ON/OFF (76)

This switch selects 48V DC phantom power for all channels. In the "Off" position, no phantom powering is available on any channels.

CHANNEL PATCH SECTION

NOTE: These facilities are duplicated on every channel.

PATCH POST (77)

A post-EQ, post-Fader send and return patch. This uses a stereo jack. Tip is send, and ring is return. Independent channel output may be accessed by mono jack inserted to the first "click".

PATCH PRE (78)

A pre-EQ and level send/return patch. This uses a stereo jack. Tip is send, and ring is return.

LOW Z IN (79)

For use with low impedance microphones or low level sources equipped with an XLR connector.

LINE IN (80)

Input for use with line level sources equipped with an 1/4" connector.

SRC SPECIFICATIONS

All specifications are typical unless otherwise noted, and are referenced to nominal output level (0dBV) unless otherwise noted. All measurements are wideband 20 Hz to 20 kHz unless otherwise stated.
0dBV = 1 Volt
0dBu = .778 Volt

CHANNEL

Equivalent Input Noise:

-133 dBV (150 Ohm, 25 Degrees C., 60 dB Gain)

Frequency Response:

± 2 dB 20-20,000 Hz all EQ Flat

Distortion:

Less than .05% @ 0 dB Output 60 dB Gain
Typical .003% @ 0 dB Output 30 dB Gain
(Mic input to L or R outputs, EQ flat, Sliders at 0)

Common Mode Rejection Ratio (CMRR)

Greater than 100 dB typical

Input Impedance:

Mic = 8K Ohms
Line = 40K Ohms
Pre Return = 20K Ohms
Post Return = 2K Ohms

Output Impedance:

Pre Send = 100 Ohms
Post Send = 100 Ohms

High EQ:

± 15 dB @ 10 kHz Minimum
Center Detent flat ± 2 dB

Mid EQ:

± 15 dB @ Selected Frequency

Mid Frequency:

200 Hz to 5 kHz adjustment of Mid Frequency

Low EQ:

± 15 dB @ 50 Hz Minimum
Center Detent flat ± 2 dB

Maximum Preamp Gain:

60 dB Minimum

Minimum Preamp Gain:

2 dB

Maximum Channel Gain:

70 dB

(Pan at L or R, Slider @ Max, EQ flat)

Maximum Input Level:

Mic = +16 dBV (6.3 VRMS)
Line = +38 dBV (60 VRMS)
Pre Return = +18 dBV (8 VRMS)
Post Return = +18 dBV (8 VRMS)

Maximum Output Level:

Pre Send = +18 dBV (8 VRMS)
Post Send = +18 dBV (8 VRMS)

Nominal Input Level:

Mic = -20 dBV (100 mV, -18 dBu)
Line = 0 dBV (1 VRMS)
Pre Return = 0 dBV (1.0 VRMS)
Post Return = 0 dBV (1.0 VRMS)

Headroom:

Nominal = 18 dBV
Red LED = 3 dBV

Pan Characteristics:

2 dB Down @ Mid Position

LED Level:

Red = +15 dBV (5.62 VRMS)

MASTER:

LED Meter Calibration:

0 = 0 dBV (1.0 VRMS)

Nominal Output Level Unbalanced:

Master = +0 dBV (1.0 VRMS)
L & R = +0 dBV (1.0 VRMS)
Auxiliary = +0 dBV (1.0 VRMS)
Effects A & B = +0 dBV (1.0 VRMS)

Nominal Output Level Balanced:

Master = +6 dBV (2.0 VRMS)
L & R = +6 dBV (2.0 VRMS)
Auxiliary = +6 dBV (2.0 VRMS)

Nominal Headroom:

Master = 19 dB (Balanced and Unbalanced)
L & R = 19 dB (Balanced and Unbalanced)
Auxiliary = 19 dB (Balanced and Unbalanced)
Effects A & B = 19 dB

Maximum Output Level Unbalanced:

Master = +19.5 dBV (9.5 VRMS, +21.5 dBu)
L & R = +19.5 dBV (9.5 VRMS, +21.5 dBu)
Auxiliary = +19.5 dBV (9.5 VRMS, +21.5 dBu)
Effects A & B = +18 dBV (9 VRMS, +20 dBu)

Maximum Output Level Balanced:

Master = +25.5 dBV (18.8 VRMS, +27.5 dBu)
L & R = +25.5 dBV (18.8 VRMS, +27.5 dBu)
Auxiliary = +25.5 dBV (18.8 VRMS, +27.5 dBu)

Output Impedance:

Master = 100 Ohms (Balanced and Unbalanced)
L & R = 100 Ohms (Balanced and Unbalanced)
Auxiliary = 100 Ohms (Balanced and Unbalanced)
Effects A & B = 100 Ohms

Output Noise:

SRC-16

Residual: -96 dBV
(L & R Sliders Down)
Bus: -61 dBV
(All Channel sliders down, Effects Return Down, all Pan at middle)
Nominal: -61 dBV
(All Channels at 30 dB Gain, 150 Ohm Input, EQ Flat, Pan Middle, sliders at 0, All assigns at L & R, Effects Returns down)

SRC-24

Residual: -96 dBV
(L & R Sliders Down)
Bus: -88 dBV
(All Channel sliders Down, Effects Returns Down, all Pan at middle)
Nominal: -78 dBV
(All Channels at 30 dB Gain, 150 Ohm Input, EQ Flat, Pan Middle, Sliders at 0, All assigns at L & R, Effects Returns down)

Effects A & B Return Input Impedance:

100 K Ohms

Effects A & B Return Gain:

16.5 dB Max

Auxiliary Return Gain:

0 dB

(Master, L, R, Aux)

PFL Auxiliary:

Tip = PFL Signal @ 1 VRMS Nominal
Ring = PFL Switch Signal (Grounding Activates PFL)

Headphone:

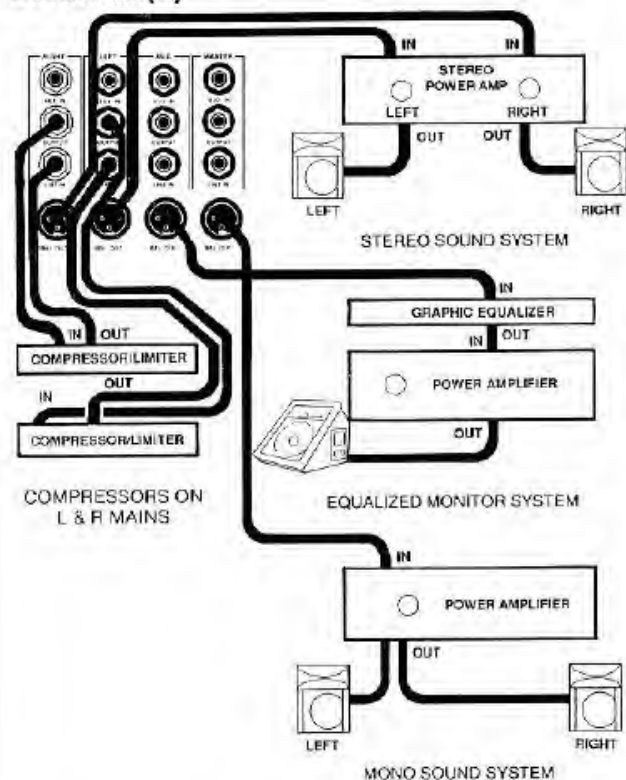
Stereo 8 Ohm to 200 Ohm Nominal
Tip = Left, Ring = Right, Sleeve = Ground
500 mW Total Power
Less than 1% Distortion

POWER CONSUMPTION:

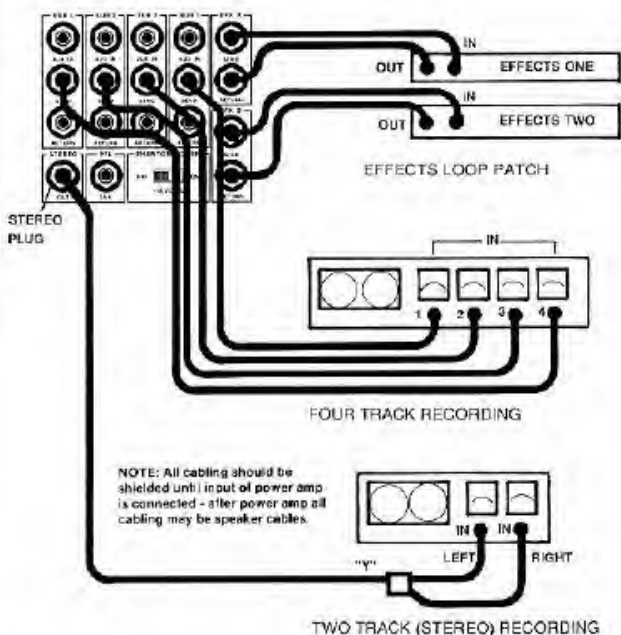
120 VAC 60 Hz, 30 Watts

Features and specifications subject to change without notice.

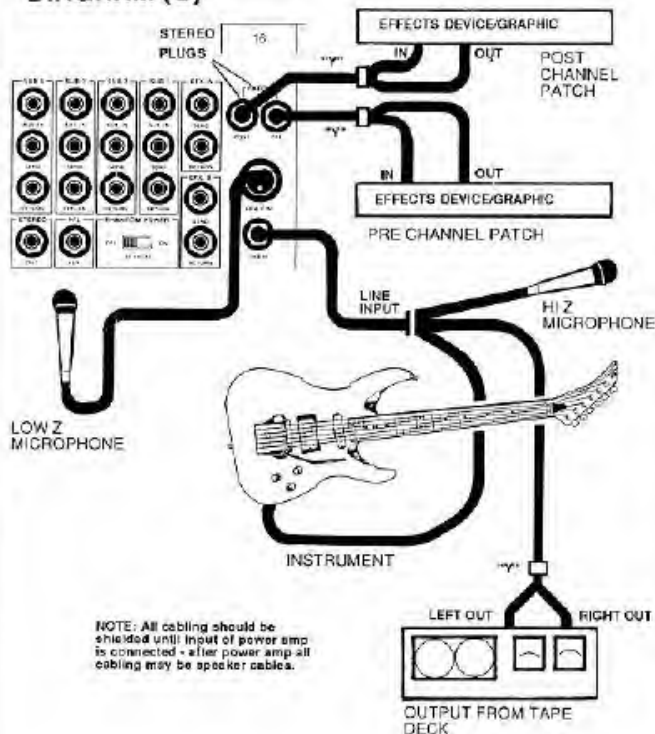
MASTER PATCH DIAGRAM (A)



MASTER PATCH DIAGRAM (B)

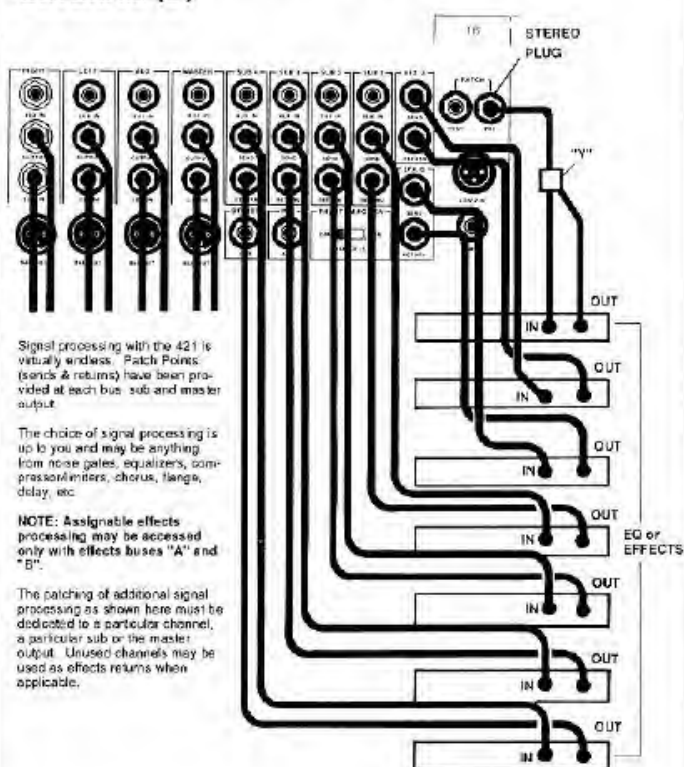


CHANNEL PATCH DIAGRAM (C)

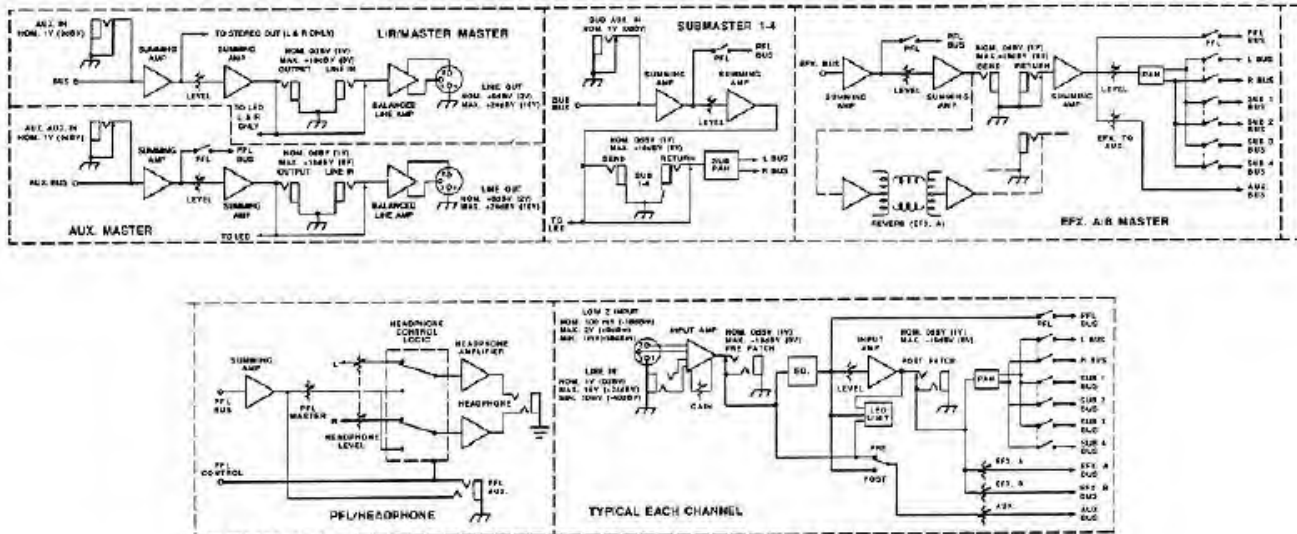


Note: Low and High impedance inputs can not be used at the same time.

SIGNAL PROCESSING PATCH DIAGRAM (D)



BLOCK DIAGRAM



DANGER
EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.

THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS	SOUND LEVEL DBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
7/8	107
1/2	110

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS.

EAR PLUGS OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

CAUTION

THIS MIXER/CONSOLE/AMPLIFIER DEVICE/PREAMP HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE SIGNAL VOLTAGE FOR PLAYING MODERN MUSIC. IMPROPER USE OF THE GAIN/EQUALIZER CONTROLS AND/OR EXCESSIVE USE OF INTERNAL/EXTERNAL BUSES MAY CAUSE CLIPPING (SQUARE WAVES) AND POSSIBLY CAUSE SUBSEQUENT DAMAGE TO THE LOUS/SPEAKER SYSTEMS. EXTENDED OPERATION OF THE GAIN/EQUALIZER CONTROLS IN THEIR MAXIMUM POSITIONS IS THEREFORE NOT RECOMMENDED. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN/EQUALIZER CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

IT IS COMMON PRACTICE AMONG USERS OF SOUND REINFORCEMENT EQUIPMENT TO IDENTIFY THE INDIVIDUAL CHANNELS WITH A STRIP OF TAPE PLACED ABOVE OR BELOW THE NAME OF VOLUME FADERS. MANY TYPES OR BRANDS OF TAPE HAVE A VERY STRONG ADHESIVE WHICH CAN INHIBIT THE PAINT ON THE FACE PLATE AND ACTUALLY REMOVE THE PAINT WHEN THE TAPE IS REMOVED. WE STRONGLY RECOMMEND THAT SCOTCH TAPE NOT BE USED ON PAINTED SURFACES, NOR ANY OTHER TAPE THAT IS NOT ESPECIALLY DESIGNED FOR SUCH APPLICATIONS. NEWMARK LIGHT ADHESIVE MARKING OR CLEAR LABEL TAPE IS RECOMMENDED IF TAPE IS USED. ANY TAPE LEFT ON PAINTED SURFACE FOR EXTENDED PERIODS WILL BE DIFFICULT TO REMOVE. NEVER USE A BAR OR SCOTCH TAPE FOR THESE APPLICATIONS.

- Read all safety and operating instructions before using this product.
- All safety and operating instructions should be retained for future reference.
- Obey all cautions in the operating instructions and on the back of the unit.
- All operating instructions should be followed.
- This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
- This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
- This product should not be placed near a source of heat such as a stove, radiator or another heat producing appliance.
- Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
- Never break off the ground pin on the power supply cord. For more information on grounding, write for our free booklet "Shock Hazard and Grounding".
- Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
- The power supply cord should be unplugged when the unit is to be unused for long periods of time.
- If this product is to be mounted in an equipment rack, rear support should be provided.
- Metals can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag or an ammonia based household cleaner if necessary.
- Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
- This unit should be checked by a qualified service technician if:
 - The power supply cord or plug has been damaged.
 - Anything has fallen or been spilled into the unit.
 - The unit does not operate correctly.
 - The unit has been dropped or the enclosure damaged.
- The user should not attempt to service this equipment. All service work should be done by a qualified service technician.

THIS LIMITED WARRANTY VALID ONLY WHEN PURCHASED AND REGISTERED IN THE UNITED STATES OR CANADA. ALL EXPORTED PRODUCTS ARE SUBJECT TO WARRANTY AND SERVICES TO BE SPECIFIED AND PROVIDED BY THE AUTHORIZED DISTRIBUTOR FOR EACH COUNTRY.

Ces clauses de garantie ne sont valables qu'aux Etats-Unis et au Canada. Dans tous les autres pays, les clauses de garantie et de maintenance sont fixées par le distributeur national et assurées par lui selon la législation en vigueur.

Diese Garantie ist nur in den USA und Kanada gültig. Alle Export-Produkte sind der Garantie und dem Service des Importeurs des jeweiligen Landes unterworfen.

Esta garantía es válida solamente cuando el producto es comprado en E.U. continentales o en Canada. Todos los productos que sean comprados en el extranjero, están sujetos a las garantías y servicio que cada distribuidor autorizado determine y ofrezca en los diferentes países.

ONE-YEAR LIMITED WARRANTY/REMEDY

PEAVEY ELECTRONICS CORPORATION ("PEAVEY") warrants this product, EXCEPT for covers, footswitches, patchcords, tubes and meters, to be free from defects in material and workmanship for a period of one (1) year from date of purchase, PROVIDED, however that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions and limitations hereinafter set forth.

PEAVEY 90-DAY LIMITED WARRANTY ON TUBES AND METERS

If this product contains tubes or meters, Peavey warrants the tubes or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase; PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is also subject to the conditions, exclusions and limitations hereinafter set forth.

CONDITIONS, EXCLUSIONS AND LIMITATIONS OF LIMITED WARRANTIES

These limited warranties shall be void and of no effect if:

- The first purchase of the product is for the purpose of resale; or
- The original retail purchase is not made from an AUTHORIZED PEAVEY DEALER; or
- The product has been damaged by accident or unreasonable use, neglect, improper service or maintenance, or other causes not arising out of defects in material or workmanship; or
- The serial number affixed to the product is altered, defaced or removed.

In the event of a defect in material and/or workmanship covered by this limited warranty, Peavey will:

- In the case of tubes or meters, replace the defective component without charge;
- In other covered cases (i.e., cases involving anything other than covers, footswitches, patchcords, tubes or meters), repair the defect in material or workmanship or replace the product, at Peavey's option;

and provided, however, that, in any case, all costs of shipping, if necessary, are paid by you, the purchaser.

THE WARRANTY REGISTRATION CARD SHOULD BE ACCURATELY COMPLETED AND MAILED TO AND RECEIVED BY PEAVEY WITHIN FOURTEEN (14) DAYS FROM THE DATE OF YOUR PURCHASE.

In order to obtain service under these warranties, you must:

- Bring the defective item to any AUTHORIZED PEAVEY DEALER or AUTHORIZED PEAVEY SERVICE CENTER and present therewith the ORIGINAL PROOF OF PURCHASE supplied to you by the AUTHORIZED PEAVEY DEALER in connection with your purchase from him of this product.
If the DEALER or SERVICE CENTER is unable to provide the necessary warranty service you will be directed to the nearest other PEAVEY AUTHORIZED DEALER or AUTHORIZED PEAVEY SERVICE CENTER which can provide such service.

OR

- Ship the defective item, prepaid, to:

PEAVEY ELECTRONICS CORPORATION
International Service Center
Highway 80 East
MERIDIAN, MS 39301

including therewith a complete, detailed description of the problem, together with a legible copy of the original PROOF OF PURCHASE and a complete return address. Upon Peavey's receipt of these items:

If the defect is remedied under these limited warranties and the other terms and conditions expressed herein have been complied with, Peavey will provide the necessary warranty service to repair or replace the product and will return it, FREIGHT COLLECT, to you, the purchaser.

Peavey's liability to the purchaser for damages from any cause whatsoever and regardless of the form of action, including negligence, is limited to the actual damages up to the greater of \$500.00 or an amount equal to the purchase price of the product that caused the damage or that is the subject of or is directly related to the cause of action. Such purchase price will be that in effect for the specific product when the cause of action arose. This limitation of liability will not apply to claims for personal injury or damage to real property or tangible personal property allegedly caused by Peavey's negligence. Peavey does not assume liability for personal injury or property damage arising out of or caused by a non-Peavey alteration or attachment, nor does Peavey assume any responsibility for damage to interconnected non-Peavey equipment that may result from the normal functioning and maintenance of the Peavey equipment.

UNDER NO CIRCUMSTANCES WILL PEAVEY BE LIABLE FOR ANY LOST PROFITS, LOST SAVINGS, ANY INCIDENTAL DAMAGES OR ANY CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

THESE LIMITED WARRANTIES ARE IN LIEU OF ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE; PROVIDED, HOWEVER, THAT IF THE OTHER TERMS AND CONDITIONS NECESSARY TO THE EXISTENCE OF THE EXPRESS, LIMITED WARRANTIES, AS HEREINABOVE STATED, HAVE BEEN COMPLIED WITH, IMPLIED WARRANTIES ARE NOT DISCLAIMED DURING THE APPLICABLE ONE-YEAR OR NINETY-DAY PERIOD FROM DATE OF PURCHASE OF THIS PRODUCT.

SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THESE LIMITED WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

THESE LIMITED WARRANTIES ARE THE ONLY EXPRESS WARRANTIES ON THIS PRODUCT, AND NO OTHER STATEMENT, REPRESENTATION, WARRANTY OR AGREEMENT BY ANY PERSON SHALL BE VALID OR BINDING UPON PEAVEY.

In the event of any modification or disclaimer of express or implied warranties, or any limitation of remedies, contained herein conflicts with applicable law, then such modification, disclaimer or limitation, as the case may be, shall be deemed to be modified to the extent necessary to comply with such law.

Your remedies for breach of these warranties are limited to those remedies provided herein and Peavey Electronics Corporation gives this limited warranty only with respect to equipment purchased in the United States of America.

INSTRUCTIONS — WARRANTY REGISTRATION CARD

- Mail the completed WARRANTY REGISTRATION CARD to:

PEAVEY ELECTRONICS CORPORATION
POST OFFICE BOX 2898
MERIDIAN, MISSISSIPPI 39302-2898

- Keep the PROOF OF PURCHASE. In the event warranty service is required during the warranty period, you will need this document. **There will be no identification card issued by Peavey Electronics Corporation.**
- IMPORTANCE OF WARRANTY REGISTRATION CARDS AND NOTIFICATION OF CHANGES OF ADDRESS:
 - Completion and mailing of WARRANTY REGISTRATION CARDS — Should notification become necessary for any condition that may require correction, the REGISTRATION CARD will help ensure that you are contacted and properly notified.
 - Notice of address changes — If you move from the address shown on the WARRANTY REGISTRATION CARD, you should notify Peavey of the change of address so as to facilitate your receipt of any bulletins or other forms of notification which may become necessary in connection with any condition that may require dissemination of information or correction.
- You may contact Peavey directly by telephoning (601) 483-5365.
- Please have the Peavey product name and serial number available when communicating with Peavey Customer Service.



Features and specifications are subject to change without notice.

PEAVEY ELECTRONICS CORPORATION 711 A Street/Meridian, MS 39302-2898/U.S.A./ (601) 483-5365/Telex: 504115/Fax: 484-4278

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